

REMARKS

Claims 1-26 are now pending in the application. Claims 1-3, 5-11, 14-19 and 21-26 stand rejected. Claims 4, 12, 13 and 20 stand objected to. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the remarks contained herein.

OBJECTION TO DRAWINGS

The Office Action states that Figure 16 should be designated by a legend such as --Prior Art--. Applicant asserts that Figure 16, which was filed with the original patent application on August 9, 2001, was labeled as "Prior Art" at the bottom of the page. In a telephone conference with the Examiner on June 2, 2004, the Examiner agreed that Figure 16 is currently designated as prior art. Accordingly, it is believed that the instant rejection is moot and withdrawal of the instant rejection is requested.

OBJECTION TO SPECIFICATION

The Examiner states the title of the invention is not descriptive and, therefore, needs to be changed to more clearly indicate the invention to which the claims are directed. In a telephone conference with the Examiner on June 2, 2004, the Examiner indicated that the new title "Electrooptical Unit with a Flexible Board and Electronic Apparatus" as changed in a Response filed on July 23, 2003, is sufficiently descriptive. Accordingly, it is believed that the instant rejection is moot and withdrawal of the instant rejection is requested.

REJECTION UNDER 35 U.S.C. § 103

Claims 1-3, 5-11, 14-19 and 21-26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Muramatsu (U.S. Pat. No. 6,675,470) in view of Nishimoto et al. (JP Pat. No. 5-88195). This rejection is respectfully traversed.

Referring to claim 1, the claim calls for “a flexible board . . . including a plurality of front-side terminals formed on a front-side thereof, a plurality of rear-side terminals formed on a rear side thereof.” Similarly, claim 18 calls for “said flexible board including first terminals formed on one side of said flexible board, second terminals formed on an opposite side of said flexible board.” Also similarly, both claims 23 and 24 call for “the flexible board including first terminals formed on one side of the flexible board and second terminals formed on an opposite side of the flexible board.” Both claims 25 and 26 call for “first terminals formed on one side of the flexible board and . . . second terminals formed on an opposite side of the flexible board from the first terminals.” It is respectfully submitted that the subject matter of claims 1, 18 and 23-26 is nonobvious and patentable over the prior art of record.

In the Office Action, the Muramatsu reference is stated as disclosing a flexible board 20 including a plurality of front-side terminals 22-1 formed on a front side thereof and a plurality of rear-side terminals 22-2 formed on a rear-side thereof. It is respectfully submitted, however, that the Muramatsu reference does not show a flexible board with front and rear side terminals on opposite sides of the board. Rather, the Muramatsu reference discloses a flexible board 20 having conductive terminals 22-1, 22-2 formed on the same side of the flexible board 20. Flexible board 20 is then bent so

that circuit board 10 is disposed to the rear side (below) the LCD panel 50. See at least Figure 3 and column 6, lines 43-51 of the Muramatsu reference. Therefore, it is respectfully submitted that conductive terminals 22-1, 22-2 may face in opposite directions (i.e., up and down in Figure 1), but are certainly not formed on front and rear sides or opposite sides of the flexible board as called for in the claims. Thus, it is respectfully submitted the Muramatsu reference cannot be relied upon as a primary reference as is done in the Office Action. Accordingly, for at least this reason withdrawal of the instant rejection is requested.

Furthermore, claim 1 also calls for "a plurality of through holes enabling electrical connection of said front-side terminals and said rear-side terminals." Similarly, claim 18 also calls for "through holes formed through said flexible board electrically interconnecting said first and second terminals." Claims 23 and 24 both call for "a flexible board formed with through holes . . . the first terminals and the second terminals being electrically interconnected through the through holes." Claims 25 and 26 both call for "a flexible board formed therethrough with through holes . . . the first terminals and the second terminals being electrically interconnected through the through holes." In rejecting these claims, the Office Action relies upon the Nishimoto et al. reference as disclosing a flexible wiring board wherein the front-side terminals and the rear-side terminals of the flexible board are connected via through holes. The Office Action goes on to state that it would be obvious to one of ordinary skill in the art to modify the electrooptical unit of Muramatsu by connecting the front-side terminals 22-1 and the rear-side terminals 22-2 of the flexible board via the through holes in order to improve operability.

It is respectfully submitted, however, that such a combination would not be obvious and is impermissible as requiring an elaborate and extensive reworking and engineering of the entire electrooptical unit of the Muramatsu reference along with changing the functionality thereof. For example, in order for through holes to be used to connect the conductive terminals 22-1, 22-2, the conductive terminals 22-1, 22-2 would first need to be provided on opposite surfaces of the flexible wiring board 20. As stated above, however, the conductive terminals 22-1, 22-2 are provided on the same side of the flexible wiring board 20. There is no motivation provided for positioning the terminals on opposite faces of the flexible wiring board 20. Furthermore, notwithstanding this fact, the conductive terminals 22-2 could not be properly connected to the terminals 53-1 of the LCD panel 50 without substantial redesign. For example, removal of light guide 44, spacing member 60, and the tape 56 would be required. Such a drastic modification and complete redesign of the electrooptical unit of the Muramatsu reference would not be obvious to one of ordinary skill in the art. Moreover, such a modification would completely change the functionality of the electrooptical unit of the Muramatsu reference. Specifically, conductive terminals 22-2 are connected to terminals 53-1 of LCD panel 50 while conductive terminals 22-1 are electrically conducted to terminals 12 via conductive members 30. Conductive terminals 22-1, 22-2 are interconnected via the IC chip 24. This allows diverse electric signals and power to be supplied to the LCD panel 50 from the conductive terminals 12 of the circuit board 10 of the apparatus main unit via the conductive members 30, the conductive terminals 22-1, the IC chip 24, and the conductive terminal 22-2. See at least column 7, lines 21-32 and Figure 1 of the Muramatsu reference. If the conductive terminals 22-1, 22-2 were

interconnected via a through hole in flexible board 20, the IC chip 24 would be removed from the electrical path. Removing IC chip 24 would entirely change the functionality of the electrooptical unit of the Muramatsu unit. Changing the functionality of the Muramatsu reference is impermissible and, thus, such combination is not allowed.

Accordingly, for at least these additional reasons it is respectfully submitted that claims 1, 18 and 23-26 are nonobvious and patentable over the prior art of record. Claims 2, 3, 5-11, 14-17, 19, 21 and 22 all depend from one of claims 1, 18 and 23-26 and, therefore, for at least the reasons stated above with reference to these claims are also nonobvious and patentable over the prior art of record. Thus, withdrawal of the instant rejection is requested.

Moreover, claim 25 calls for "the first terminals being formed at a wider pitch than a pitch of the panel terminals." Claim 26 calls for "each first terminal being formed wider than a corresponding one of the second terminals." It is respectfully submitted that this subject matter of claims 25 and 26 is ignored in the Office Action. Additionally, Applicant respectfully submits that this subject matter of claims 25 and 26 is patentable. Thus, for at least these additional reasons, it is respectfully submitted that claims 25 and 26 are nonobvious and patentable over the prior art of record. Accordingly, withdrawal of the instant rejection is requested.

ALLOWABLE SUBJECT MATTER

The Examiner states that claims 4, 12, 13 and 20 would be allowable if rewritten in independent form. The Examiner is thanked for the objection to these claims.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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